

### REMARKS

Applicants have amended the present application by incorporating the limits of claim 25 into claim 18. Specifically, claim 18 is now limited to where "metal ions are  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ , or any combination of these." Additionally, claim 18 is now amended to express that the focus of the invention is to coagulate or agglomerate these transition metal ions.

Claims 18-20, 22-27 and 36 stand rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over *Bleakley*, U.S. Patent No. 5,830,364. Additionally, claims 28-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bleakley*.

Claim 18 describes a method for coagulating or agglomerating transition metal ions in a process liquid comprising detrimental substances, suspended material, and said transition metal ions comprising hydroxide builders, wherein said metal ions are  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ , or any combination of these. The method comprises adding to the process liquid carbon dioxide in an amount sufficient to primarily form bicarbonate ions ( $\text{HCO}_3^-$ ) having a pH-buffering effect; lower the pH of the process liquid to between 8 and 6.5; primarily form metal hydroxides from said metal ions; and cause said detrimental substances to coagulate or agglomerate with the metal hydroxides, such that the detrimental substances adhere to the suspended material and become inactive. Claims 19-33 and 36 depend from claim 18.

The Examiner asserts that *Bleakley* teaches (or makes obvious) all the claim limitations. However, claim 18 now describes a method to coagulate or agglomerate the specific transition metal ions  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ , which are **already present** in a process liquid. *Bleakley*, on the other hand, is focused on treating used

water by adding alkaline earth metals to the used water. See, e.g., Column 7, lines 18-22.

*Bleakley* neither anticipates nor renders obvious the claimed invention.

Applicants cite from MPEP § 2141 that when applying 35 U.S.C. § 103, the following tenets must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

*Hodosh v. Block Drug Co.*, 786 F.2d 1136, 1143 n.5 (Fed. Cir. 1986). Applicants insist that *Bleakley* considered as a whole does not suggest the desirability of the present invention. Instead, *Bleakley* is concerned with adding alkaline earth metals to used water. Alkaline earth metals are those present in group II of the periodic table: Be, Mg, Ca, Sr, Ba and Ra. *Bleakley* does not teach or suggest the coagulation or agglomeration of any of the specific metal ions now in claim 18 ( $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ ), none of which are alkaline earth metals. Specifically, *Bleakley* does not suggest the coagulation or agglomeration of late transition metal ions ( $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Cu}^{2+}$ ) already present in the process liquid. In fact, because the focus of the present invention is the coagulation or agglomeration of late transition metal ions already present in the process liquid it is impermissible hindsight to view applicant's disclosure and then apply *Bleakley*, which instead is

focused on adding alkaline earth metals to used water. That is, one skilled in the art would not even consider a publication such as *Bleakley* when solving the problems that the present invention solves.

Thus, when *Bleakley* is considered as a whole and viewed without the benefit of impermissible hindsight, it is clear that claim 18 is not anticipated nor rendered obvious by the teachings of *Bleakley*. Additionally, claims 19-33 and 36 depend from claim 18 and are thus patentable for at least the reasons discussed above.

Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 18-33 and 36. Action in the manner of a Notice of Allowance is believed to be appropriate and is respectfully requested.

Respectfully submitted,

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